Shellfish*

Engineering Section

THE Shellfish Committee of the Engineering Section met in New York City on the morning of June 4, 1946. A joint luncheon and afternoon meeting was held on this same date with the Committee on Standard Methods for the Examination of Shellfish. This was the first meeting of the committee in two years, because of travel restrictions in 1945.

Since the time of the last meeting the Public Health Service has adopted and placed in operation the new *Manual of Recommended Practice for the Sanitary Control of the Shellfish Industry*. Much of the discussion at the 1946 meeting therefore had to do with this *Manual*. In reporting on these subjects the same order will be followed as that occurring in the *Manual*. Reference numbers where used refer to *Manual* numbers. In addition to the discussion of the *Manual* some other subjects were considered. These included recent food and drug activities and some new developments within the industry.

U. S. PUBLIC HEALTH SERVICE MANUAL OF RECOMMENDED PRACTICE FOR THE SANITARY CONTROL OF THE SHELLFISH INDUSTRY

Definitions (1)—The committee was of the opinion that in view of the rapid development of some quick frozen foods, using raw or partially cooked shellfish, the definition of "shellfish" appearing on page 5 should be revised. It is recommended that this definition be changed to read as follows:

Shellfish: Shellfish means all fresh or frozen oysters, clams, or mussels either shucked or in the shell, and any fresh or frozen or incompletely sterilized edible products thereof.

It is apparent from the above recommendation that the committee believes that the frozen food industry handling shellfish products should be under the same sanitary supervision and control as the fresh or unprocessed shellfish industry. Processed or canned shellfish, where the processing or canning results in a sterile product, have always been exempt from the control of the Public Health Service and are the responsibility of the Food and Drug Administration. Likewise, where frozen foods contain completely processed or sterilized shellfish products before freezing, such frozen foods will become exclusively the responsibility of the Food and Drug Administration. The Public Health Service and the State Regulatory Authorities responsible for fresh shellfish sanitation will, however, be responsible for frozen foods containing raw or partially cooked shellfish.

BACTERIOLOGICAL EXAMINATION OF SHELLFISH AND SHELLFISH WATERS

(3.3)—As indicated in the opening paragraph, the Engineering committee met jointly with the Laboratory committee to consider some problems com-

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mon to both. During the morning the Laboratory committee had held a separate meeting. It is believed that some revisions in the recently adopted "Standard Methods" for the examination of shellfish and shellfish waters are contemplated as a result of these meetings. Basically, however, the methods will remain unchanged. It was the opinion of the joint committees, however, that the limiting standards set forth in the *Manual* were not satisfactory and should be changed as quickly as possible. No conclusions could be reached at the June meetings as to how they should be changed.

This matter of satisfactory and suitable limiting standards for the sanitary quality of shellfish and shellfish waters has always been a troublesome problem. There seems to be a general agreement on the limiting bacteriological standards for the quality of shellfish waters, although even this is not unanimous. But when the question of limiting bacteriological standards for shellfish is considered, there seems to be little if any agreement. Now, with the added problem of setting up practical standards for frozen shellfish and shellfish products, the question of standards becomes even more complex. The joint committees realize the extent of this problem and have decided to meet again in Cleveland for further discussion of this particular subject. It is hoped that out of this meeting there will be developed some reasonable, practicable and much needed bacteriological standards for the shellfish industry.

Cleansing (4.2)—Although this subject was not discussed at the meeting, nevertheless it is desirable that the committee carefully consider recent developments by the Fish and Wildlife Service which indicate that some of our former concepts on this subject may be in need of revision. This may also be true in the case of *Floating* (4.5).

Bactericidal Treatment (4.21)—It is often difficult to get a sufficient supply of hot water or live steam in shucking and packing plants to insure sterilization of equipment. Recently a new piece of equipment has been tried to overcome this difficulty. This equipment is used extensively in garages for cleaning motors. It is a kerosene burner that produces an almost instantaneous and continuous stream of steam under pressure. The machine is small, compact, and portable. It requires only connections to a water supply and an electric outlet. Various lengths of steam hose and several types of nozzles come with the machine. Final tests of the efficiency of this machine have not yet been made, but its use under certain conditions seems promising.

Shipping Containers (4.29) — The post-war development of air transport for shellfish and the expanded frozen food activities will bring about new and as yet untried shipping containers. Some firms have already been experimenting with pliofilm packages. In any event the more extensive use of individual consumer packages appears to be in the offing. The committee welcomes this development and believes it should encourage the use of such packages in the interest of giving the consumer better shellfish.

The proper identification of such consumer packages containing fresh or frozen shellfish does not seem to be fully covered in the *Manual*. It is the committee's recommendation that such packages should show clearly on their labels the following information:

1. The name and address of the packer or distributor.
2. A statement of the true contents of the package.
3. The certificate number of the shucker or packer, preceded by state abbreviations.
4. The date of packing. This may be in code and such a coding should have some reference to the lot packed which would show upon examination of the records of the packer the source of such shellfish and date shucked.

Packing and Shipping Shell Stock (4.39)—In the mussel producing areas some difficulty has been experienced in obtaining a satisfactory shipping container. The use of burlap bags commonly used in the shipment of other types of shellfish is unsatisfactory for mussels. Mussels begin to drain rapidly soon after removal from the water and this drainage is soaked up by such bags resulting in increased growths of bacteria which are in turn further drained into lower layers of the mussels. Mussels showing satisfactory concentrations of bacteria when taken from good areas are therefore quite often found to contain excessive bacteria when they reach the market. This is particularly true in warm weather. It is recommended that the use of such bags in the shipment of mussels be prohibited.

Identification of Shell Stock on the Market (4.40)—As required in the *Manual,* shell stock should bear a tag on each container showing:

1. The name and address of the shipper with his state certificate number preceded by the state abbreviation.
2. The name and address of the consignee.
3. A statement of the kind and quantity of shellfish in the container.
4. The date of shipment, coded or un-coded.

In addition to these items the committee believes such tags should show the *source* of such shellfish. This information should be tied down to as small an area as possible.

NEW MACHINES FOR SHUCKING OYSTERS

During the meetings of the committee and the later meetings of the Oyster Institute, demonstrations were given of two recently developed machines for the mechanical opening of oysters. One of these machines shears the adductor muscle from one shell and leaves the oyster attached to the other shell. The second machine operates very much the same as the mechanical potato peeler. It would not seem that either machine at this stage of development could replace the hand opening in commercial shucking plants, but the shearing machine might be useful in opening oysters for laboratory examination. Either machine would be helpful in the opening of oysters in restaurants for half shell trade.

PROCESSED OR CANNED SHELLFISH

Although the Public Health Service is not concerned with processed or canned shellfish because these products come under the Food and Drug Administration, nevertheless, the committee believes that only shellfish of good sanitary quality should be used in such packages. It is desirable to have such containers bear some lot or code number which would permit the tracing of their contents to their origin.

USE OF SHELL LIQUOR

From time to time attempts have been made by some packers to save and process or sell shell liquor drained from shellfish during the opening process. The committee is of the opinion that while such a practice might meet the requirements of the *Manual,* it is more than likely it would not and therefore it should be discouraged. If, however, such a practice is undertaken it is thought that the Food and Drug Administration must define its limitations. In such cases consideration should also be given to the pasteurization of such liquors.

FOOD AND DRUG ADMINISTRATION

Activities of the Food and Drug Administration were outlined for the committees by Glen D. Slocum with particular reference to the proposed establishment of standards of identity. These standards are being established for the purpose of:

1. Decreasing to a minimum the time the shellfish are in contact with fresh water.

2. Assuring adequate drainage after washing.
3. Obtaining uniform sizes for consumer protection.

It will be noted that such standards of identity have already been established and go into effect on January 1, 1947.

IMPORTATION OF SHELLFISH

Although the listing of Canadian shippers by the U. S. Public Health Service was discontinued some years ago there has been no satisfactory substitute provided by any federal agency. Many foreign countries are trying to ship shellfish into this country, and there fails to exist today any legal means for accepting such shipments other than the "after arrival" procedure of the Food and Drug Administration. From a public health point of view such a procedure is unsatisfactory. The committee recommends that the Public Health Service investigate the possibility of once more arranging for the listing of the shippers of such countries as may carry out a control program at the source of supply comparable with our program in this country. It has been suggested that such a program might become a function of the World Health Organization.

SCORE SHEETS

The committee believes that a satisfactory score sheet for the evaluation of both shellfish plants and state control measures has not yet been developed, and would welcome suggested sheets for future consideration.

GENERAL COMMITTEE RECOMMENDATION

The committee endorses the new Public Health Service *Manual* in principle and recommends that the Public Health Service extend, if possible, its shellfish sanitation program along three principal lines of endeavor as follows:

1. Provide for a full-time sanitary engineer to engage in shellfish sanitation work in each district.
2. Provide for continuous research and technical study of shellfish sanitation problems.
3. Stimulate or carry out some effective educational program in the consuming areas for the purpose of eliminating unsatisfactory practices, particularly on the part of retailers.

ADDENDUM

The joint committee meeting took place in Cleveland on November 11, 1946. The following were agreed upon:

1. That within the limits of our present knowledge the procedure outlined in the *Manual* for determining classes of shellfish areas based on sanitary surveys and coliform results is generally satisfactory.
2. That any recommended changes in limiting bacteriological standards for shellfish or shellfish products must be based on factual data.
3. That such factual data are not available and, consequently, no changes are now being recommended for shellfish standards although the committees believe that the shellfish standards now appearing in the *Manual* are inadequate and must be revised as soon as factual data permit.

M. H. BIDWELL, *Chairman*
L. M. CLARKSON
L. M. FISHER
JOSEPH B. GLANCY
RICHARD MESSER
JOHN H. O'NEIL
SOL PINCUS
KENNETH H. SPIES
EDWARD WRIGHT

Adviser, Laboratory Section
CHESTER T. BUTTERFIELD